DOCUMENT RESUME

ED 351 396 TM 019 238

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TITLE Concurrent Validity of Diagnostic Intake Measures: Their Relationship to Client Presenting Problems.
PUB DATE 25 Aug 92
NOTE 26p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adults; Clinical Diagnosis; Comparative Testing; *Concurrent Validity; Counseling Services; *Diagnostic Tests; Evaluation Utilization; Psychological Testing; Rating Scales; *Screening Tests; *Symptoms (Individual Disorders); Test Validity
IDENTIFIERS Beck Depression Inventory; Discriminant Validity; State Trait Anxiety Inventory (Spielberger); Tennessee Self Concept Scale

ABSTRACT

The concurrent validity and discriminant validity of 3 widely used measures of psychological functioning were evaluated using a large, heterogeneous sample of 188 male and 337 female adult community residents (aged 16-66 years) seeking counseling services at a midwestern university training clinic. Validity was assessed as the relationship between clients' stated presenting problems and diagnostic intake variables as measured using the Beck Depression Inventory (BDI), the Spielberger State-Trait Anxiety Inventory (STAI), and the Tennessee Self-Concept Scale (TSCS). Subjects also completed the Presenting Problem Checklist. Three multivariate analyses of variance were conducted. Results strongly support the validity of the BDI, provide partial support for the State and Trait subscales of the STAI, and provide only a limited amount of support for the TSCS. Implications of the results for the utility of these measures are discussed. Two tables present study data, and 49 references are included. (Author/SLD)

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Abstract

Concurrent Validity of Diagnostic Intake Measures:
Their Relationship to Client Presenting Problems

This study evaluated the concurrent and discriminate validity of three widely-used measures of psychological functioning, using a large, heterogeneous sample of clients seeking counseling services at a university training clinic. Validity was assessed as the relationship between clients' stated presenting problems and diagnostic intake variables as measured by the Beck Depression Inventory (BDI), Spielberger State-Trait Anxiety Inventory (STAI), and the Tennessee Self-Concept Scale (TSCS). Results strongly supported the validity of the BDI, provided partial support for the State and Trait subscales of the STAI, and only a limited amount of support for the TSCS. Implications of their results for the utility of these measures as diagnostic sources are discussed.

Concurrent Validity of Diagnostic Intake Measures: Their Relationship to Client Presenting Problems

The purpose of this study was to examine the concurrent validity of the Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), and Tennessee Self-Concept Scale (TSCS), three widely used measures of depression, anxiety, and self-concept, evaluating their convergent and discriminant power with regard to client presenting problems. A great deal of previous work has addressed these measures, often yielding favorable validity results. As a rule, however, these studies have evaluated only one measure at a time, and often with small analogue, college-age samples that are not representative of the actual clientele of mental health settings (Lambert, Christensen, & Dejulio, 1983). To our knowledge, no previous research has concurrently evaluated these three instruments. The present study used multivariate procedures to assess validity of the BDI, STAI, and TSCS, through analysis of their effectiveness in identifying and discriminating between expressed presenting problems with a large sample of counseling clinic clients.

According to Moran and Lambert (1983), the BDI addresses six of the nine DSM-III depressive variables used for making clinical diagnoses; these authors rank the BDI second among six depression tools reviewed. Factor analytic studies of the BDI have identified a variety of depressive factors including 1) negative view of self and future, 2) physiological symptomatology and 3) physical withdrawal (Beck & Beamesderfer, 1974); 4) affective malaise, 5) suicidal ambivalence, 6) appetite-weight loss and 7) fatigability (Giambra, 1977). At least one report suggests that the BDI also reflects general psychopathology in addition to depressive symptomatology (Hill, Kemp-

Wheeler, & Jones, 1986).

Other authors report that the BDI is a simple and satisfactory method of assessing level of depression (Beck, Rial, & Rickels, 1974; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Clark, Gibbons, Fawcett, Aagesen, & Sellers, 1985; Johnson & Heather, 1974; Metcalfe & Goldman, 1965; Schwab, Bialow, Clemmons, Martin, & Holzer, 1967), a sensitive screening instrument (Cavanaugh, Clark, & Gibbons, 1983; Gallagher, Nies, & Thompson, 1982; Nielsen & Williams, 1980; Weinman, Levin, & Mathew, 1982), and a reliable instrument (Bouman, Luteijn, Albersnagel, & Van der Ploeg, 1985). The factors of the BDI to some extent measure general psychopathology, as well as aspects of depression independent of general psychopathology (Hill, Kemp-Wheeler, & Jones, 1986). Other researchers (Edwards, Lambert, Moran, McCully, Smith, & Ellingson, 1984; Lambert, Hatch, Kingston, & Edwards, 1986) found the Beck to be sensitive to the effects of both psychological and chemical interventions. Garfield and Bergin (1986) recommended the use of both the Beck Depression Inventory and the State-Trait Anxiety Inventory ". . . in studies that deal with affective disorders or generalized anxiety disorders in general clinical populations" (p. 195).

In reference to the State-Trait Anxiety Inventory (STAI), Metzger (1976) found the instrument to be a highly reliable measure with the ability to discriminate between persons in high- and persons in low-stress situations. Ray (1984) reported that the STAI is roughly as reliable and suitable for the general population as it is for students. Other authors have found support for the state-trait distinction in anxiety research (Allen, 1970; Bartsch, 1976; Donat, 1983; Gaudry, Vagg, & Spielberger, 1975; Joesting, 1975; Johnson, 1968). Tenenbaum and Furst (1985) recommended that the scales of the STAI be modified to improve reliability and discriminate more accurately

among varying levels of anxiety.

Validity support for the TSCS and its subscales is less substantial than for the other measures described above. Most often questioned is not whether it is potentially useful in clinical work, but whether it is, in fact, measuring the construct of self-concept. Some authors have expressed confidence in its construct validity (Vacchian & Strauss, 1968; Van Tuinen & Ramanaiah, 1979; Wylie, 1974). Others, however, have raised doubts about the self-concept dimension as measured by the TSCS (Fitzgibbons & Cutler, 1972), seriously questioned its factorial validity (Lang & Vernon, 1977), and found that it did not generalize across cultures or sex (Sharpley & Hattie, 1983). More than one author has found that the factorial structure of the TSCS is not consistent with its rational design (Bolten, 1976; Gellen & Hoffman, 1984). Tzeng, Maxey, Fortier, and Landis (1985) conclude that the derivations of the TSCS subscale scores misguide its users and lead to over-interpretation. Garfield and Bergin (1986) cautiously conclude that "although it can be argued that none of the self-concept scales [e.g., the TSCS] measures anything other than psychological distress, and therefore adds little to an assessment battery that includes a distress measure, there is some evidence (Seeman, 1979; Warr, Barter, & Brownridge, 1983) that they tap an additional dimension such as the strength of a positive self-view" (p. 197).

Wittenborn (1967) stated that "the extent to which rating scales succeed in further objectifying clinical impression will depend upon reciprocal participation of clinicians who use scales and psychometrically oriented persons who create them" (p. 392). Tuason and Spalt (1973) have suggested that demographic and clinical data collected will help provide an information system for future program evaluation.

In the current study, hypotheses concerning the convergent and discriminant power (Campbell & Fiske, 1959) of the BDI, STAI, and TSCS subscales were

generated to investigate the construct validity of the three dependent measures. It was hypothesized that mean scores on each measure would be higher for groups of clients who had identified that construct as a presenting problem than for other problem categories. It was further hypothesized that this convergence would be strongest for the top-ranked problem categories and weaker for the second and third-ranked problem categories.

Method

Subjects

Participants for the study were 525 clients (188 male, 337 female) seeking services at a midwestern university counseling practicum clinic. Clients ranged in age from 16 to 66 (median age = 32) and were community residents, representing a wide range of educational and occupational backgrounds.

Instruments

Beck Depression Inventory (BDI). The Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a 21-item self-report instrument designed to assess a respondent's current level of depression, by identifying the presence of recent symptoms. Each item consists of four or five statements about a single topic indicative of clinical depression (sadness, guilt) that range from absent/positive to very severe. Respondents check the statement "which best describes the way you feel." Each statement carries a scoring weight from 0-2; the total depression score is simply the sum of the weighted item responses. In practice, Beck (1967) reports the use of cutoff scores of 10-14 for determining clinical depression.

Psychometric properties of the BDI have been reported by Beck and others. Internal consistency reliability has been reported as r=.93 (Beck, 1967) and r=.86 (Beck & Beamesderfer, 1974), using split-half estimates (Beck, 1967). Because it is a

state measure. Beck has argued against the need for or meaningfulness of test-retest reliability studies. The BDI has also been shown to be sensitive to change during therapy, and one study has demonstrated discriminant validity in identifying clinical subpopulations (Beck, 1967). Correlations with clinical judgments, checklist measures, and the MMPI D-scale ranged from r=.66 to r=.75, supporting its construct validity. Among depression measures, the BDI is likely the most widely used.

State-Trait Anxiety Inventory (STAI). The State-Trait Anxiety Inventory (Spielberger , Gorsuch, & Luschene, 1970) is probably the most widely used measure of anxiety and of psychotherapy outcome in general (Roberts, Aronoff, Jensen, & Lambert, 1983). The STAI is comprised of two subscales, A-State and A-Trait, each represented by 20 self-report items. The A-Trait scale consists of items that are not expected to be affected by situational stress, to be stable, and to be indicative of characterological levels of anxiety. These items are responded to under instructions of how people "generally feel." Reliabilities for the A-Trait scale are reported as r=.89 to r=.91 for internal consistency and r=.65 to r=.86 for test-retest stability (Spielberger, Gorsuch, Luschene, Vagg, & Jacobs, 1983). Validity coefficients between the A-Trait scale and other published measures have been reported between r=.75 and r=.80 for college students and above r=.80 for neuropsychiatric patients (Roberts et al., 1983).

The A-State scale asks people to identify their feelings of calmness or tension at a specified moment in time, usually the present, and is indicative of responsivity to situational stressors or threat. A-State internal consistency reliability has been reported to be r=.86 to r=.95 (Spielberger et al., 1983). Validity coefficients between the A-State and other anxiety state measures range from r=.65 to r=.69 (Spielberger et al, 1983).

Tennessee Self-Concept Scale (TSCS). The Tennessee Self-Concept Scale

(TSCS; Fitts, 1965) is a standardized instrument consisting of 100 self-descriptive items used to portray a subject's perceptions of himself or herself. Two forms of the scale are available, a Counseling Form and a Clinical/Research Form, each with a number of subscales. The latter was used for this study. Respondents answer, using a five-point scale ranging from 1 = Completely False to 5 = Completely True in terms of how "you see yourself" for each item. Items include both positively and negatively weighted statements, as well as some that are unscored. Scoring is based on summations of items assigned to the subscales, with unit weights. These raw scores are then convertible to standard T-scores, which may also be plotted on a normative profile. According to its author (Fitts, 1965), scores more than one standard deviation below the norm mean ($T < 40$) on any subscales are indicative of potential self-concept problems. Test-retest reliability for the Total-Positive and subscales range from $r = .70$ to $r = .90$ (Fitts, 1965).

Presenting Problem Checklist. The Checklist identifies 24 potential problem areas: 1) depression, 2) suicidal thoughts, 3) anxiety (general), 4) anxiety (specific), 5) poor self-concept, 6) guilt feelings, 7) alcohol problems, 8) drug problems, 9) delusions or hallucinations (hearing sounds or seeing people or things around you which others do not hear or see, etc.), 10) problems thinking clearly, 11) occupation or job-related concerns, 12) decision-making problems, 13) academic or school concerns, 14) intrapersonal (inside myself) conflicts, 15) obsessive or compulsive problems (uncontrollable thoughts or need to continually repeat a behavior), 16) physical symptoms, 17) sexual concerns, 18) marital problems (husband and wife), 19) family problems (including children), 20) spouse abuse, 21) child abuse, 22) interpersonal (between people) problems, 23) dating relationships, and 24) grief or illness concerns.

Both "I don't know" and "other" categories were added so that clients who were unable to identify a presenting problem, were not forced to do so and to allow clients to list problems not included by the researchers. Clients were instructed to check all categories that they felt were applicable to them. Only nine of the 525 clients checked the "I don't know" category and twelve selected the "other" category, indicating that categories included in the study generally did encompass participants' concerns. These problem categories were established over a 19-year period by listing basic problems commonly presented by clients and then noting the additional problem categories checked in the "other" category by clients at this clinic.

Procedure

Clients seeking services at the Practicum Clinic are scheduled for a two-hour intake session. This intake consists of an approximately one-hour clinical interview with an intake counselor, followed by the administration of a one-hour pretreatment assessment battery. Prior to the intake interview, clients complete a Presenting Problem Checklist. Clients are instructed to check as many of these categories as apply to their reasons for seeking counseling and to rank order them according to priority. It is unusual for clients to indicate more than three or four problem areas; for this study only the top three ranked problems were included as data. Following the interview, clients are asked to complete the following measures: Beck Depression Inventory, Spielberger State-Trait Anxiety Inventory, and the Tennessee Self-Concept Scale. These measures are routinely scored, and the results are made available to counselors assigned to each client. Demographic and diagnostic data are also available as part of the clinical intake interview.

For this study, the presenting problem categories were designated as the independent grouping variable, while Beck Depression Inventory (BDI) scores, State

and Trait subscales of the State-Trait Anxiety Inventory (STAI), and all subscales of the Research Form of the Tennessee Self-Concept Scale (TSCS) were designated as dependent variables. The TSCS subscales were Physical Self, Moral-Ethical Self, Personal Self, Family Self, Social Self, Identity, Self-satisfaction, Behavior, Self-criticism, Defensive Positive, General Maladjustment, Psychosis, Personality Disorder, Neurosis, and Personality Integration.

Multivariate Analysis of Variance, Univariate Analysis of Variance, and post-hoc comparisons were used to evaluate these hypotheses. One MANOVA was conducted for each rank of problem category. Finally, while there was no comparison group of "normals," group means were visually compared to published norms for each of the measures.

Results

Of the three MANOVA analyses conducted, significant results were obtained for the top-ranked problem category (Wilk's Lambda=.070, F=1.21, p=.011), but not for the second- and third-ranked problem categories. The lack of significant differentiation among lower ranked categories supports the secondary hypothesis that the three measures would discriminate most effectively for the top-ranked problem area.

With regard to the primary hypothesis, the significant MANOVA result was followed with post-hoc univariate ANOVA'S, one for each of the dependent measures. Results of these analyses are presented in Table 1. Significant univariate differences

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Insert Table 1 about here

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between presenting problem categories were found for six of the 17 dependent measures. Mean scores for persons grouped according to their primary presenting

problem category differed significantly for the BDI (df=18,327, F=3.86, p=.0001), the State (df=18,321, F=2.64, p=.0004) and Trait (df=18,296, F=2.66, p=.0003) subscales of the STAI, and the Family Self (df=18,186, F=1.72, p=.0393), Social Self (df=18,186, F=1.86, p=.0219), and Self-criticism (df=18,184, F=1.91, p=.0174) subscales of the TSCS.

Post-hoc comparisons among category means were conducted for each of these scales to determine which presenting problems were associated with lower or higher scores on these scales. Duncan's multiple range tests were used for these comparisons (alpha=.05). The results of these comparisons are presented in Table 2.

Insert Table 2 about here

As hypothesized, persons who identified Depression as their primary presenting problem scored significantly higher on the BDI than those identifying nine other problems, such as Phobic Anxiety, Alcohol, Decision-making, Academic Problems, Intrapersonal Problems, Obsessions/Compulsions, Marital Problems, Family Problems, and Interpersonal Problems. There were no significant differences between those who checked Depression and those who checked General Anxiety, Poor Self-concept, Guilt, Problems Thinking, Job Problems, Sexual Concerns, Marital Problems, Spouse Abuse, and Grief-Illness. Several of these, however, were also not significantly different from the nine cited above. In addition to this group differentiation, means for all but two of the problem categories were greater than the normal range specified by Beck (1978) of 0-9. Means for six categories were in the "mild depression" range (10-15); those for seven categories were in the "moderate" range (16-19); and for four in the "moderate-severe" range (20-29). The grand mean across

all categories was 15.5 in the "mild depression" range. As such, it is apparent that depressive symptoms, as measured by the BDI, are frequent among clients, regardless of presenting problems.

Because there is no problem category on the intake form for "situational stress," there was no direct test of the primary hypothesis for the A-State subscale of the STAI. Results indicate that those checking Depression, Guilt, Job Problems and Marital Problems scored significantly higher than those checking Academic, Obsessions/ Compulsions, Intrapersonal, Family, and Sexual concerns. It is consistent with the primary hypothesis that the highest levels were found among problem areas which may involve external, situational stressors producing high levels of tension. It is also notable that those checking General Anxiety and Phobic Anxiety, which may both be more long-standing and less related to situational stress, did not score high on the A-State scale, relative to other groups. Normatively, the grand mean across all categories was 50.22, which corresponds to a T-score range of 63-71 and a percentile rank range of 90-96. Using norms based upon neuropsychiatric patients, the grand mean corresponds to a T-score of 52 and the 56th percentile. This suggests a clinically high level of current anxiety among the majority of clients, regardless of presenting concern.

For the A-Trait subscale of the STAI, it was hypothesized that those checking General Anxiety and Phobic Anxiety would score higher than others. Results were partially supportive of this hypothesis. Those in the General Anxiety, Depression, Poor Self-concept, and Job Problems categories scored significantly higher than those checking some other presenting problems, including Academic, Alcohol, Sexual, Obsession/Compulsion, Family, and Interpersonal problem areas. Phobic Anxiety clients did not score higher on the A-Trait scale than others. Compared to normative

values the grand mean of 49.45 corresponds to a T-score range of 62-69 and a percentile rank range of 87-95. Compared to psychiatric patients, this value represents a T-score of 51 and a percentile rank of 54. As before, there are relatively high levels of trait anxiety among many of the clients sampled, independent of presenting concern.

For the subscales of the TSCS, higher scores reflect healthier levels of the various self-concept dimensions represented. On the Family Self subscale, it was hypothesized that those checking Family, Marital, Sexual, Alcohol, Grief/Illness, and Spouse Abuse problems would score lower than others, because each of these concerns often involves family issues and dynamics. Results only weakly supported this hypothesis. Persons checking General Anxiety, Sexual, and Grief/Illness concerns scored significantly lower than those who identified Poor Self-concept, Thinking, Academic, Obsession/ Compulsion, marital and Family problems. The major expected differences between Family, Marital, Spouse Abuse and other categories were not found. Overall, however, the grand mean of 54.6 corresponds to a T-score of 30, two standard deviations below the norm group mean. The means for Family, marital, and Spouse Abuse were also well below the normal range.

On the Social Self subscale, it was hypothesized that Poor Self-concept, Depression, Dating, and Interpersonal Problem means would be lower than others. Of these, only Poor Self-concept, along with Alcohol, Thinking, Job, and Marital problems were significantly lower than other groups, namely Interpersonal Problems, Phobic Anxiety, Family, and Grief/Illness problems. This did not support the expected association between Interpersonal Problems and low Social Self scores. Normatively, the grand mean of 55.52 represents a T-score of 34, again almost two standard deviations below the normal mean.

Finally, on Self-criticism (on which high scores are less healthy), it was expected that those checking Poor Self-concept, Thinking, Guilt, Obsession/Compulsion, Alcohol, and Intrapersonal problems would score higher than other groups. This hypothesis was partially supported. Means for Poor Self-concept and Thinking Problems were significantly higher than those for Phobic Anxiety, Alcohol, Job Decision-making, Academic, Sexual, Marital, Family, Interpersonal, and Dating problem areas. The grand mean on Self-criticism was 30.8, which corresponds to a T-score of 42, within the normal range.

Discussion

The present study examined the validity of three widely used measures through an evaluation of their correspondence with relevant client presenting problems and differentiation from other presenting problems. Multivariate procedures were used to test these construct validity hypotheses.

Overall, the group measures significantly discriminated presenting problem groups only for the top-ranked level, failing to do so for problems ranked second or third. This result was as hypothesized. Individually, the strongest support was found for the Beck Depression Inventory. Persons presenting with depression scored significantly higher than those in most other categories. Persons in some other categories, though, did not score significantly lower. These included spouse abuse, job problems, guilt, sexual concerns, and marital problems. It is reasonable to expect that these types of presenting concerns would be accompanied by depressive symptoms, though clients might not identify depression as their chief complaint. Equally notable was the result that persons presenting with such problems as academics, phobic anxiety, alcohol, and family problems scored below the suggested cutoff score of clinical levels of depression. The combination of convergent and

discriminant power of the BDI supports its validity as an index of depression. Finally, relatively high levels across all categories indicate, as noted by others (Hill, Kemp-Wheeler, & Jones, 1986) that general psychological distress is also measured by the BDI (or that depressive symptoms are common to many presenting problems).

Groups were discriminated significantly by the State subscale of the State-Trait Anxiety Inventory and corresponded to hypotheses. Those clients with high stress concerns, such as job problems, depression, guilt, and marital concerns, scored higher than others. Also, the grand mean across all groups was at the 95th percentile of normal scores, indicating that most of these clients were anxious. This scale is intended to measure present stress levels, not characterological or chronic anxiety. Because all clients completed this measure just prior to their first counseling intake session, it is likely that their stress level at that time was very high. The fact that all groups scored well above average levels suggests that the scale is effective at detecting situational anxiety and that most clients are anxious at the time of intake.

For the Trait subscale, which was hypothesized to differentiate those presenting with anxiety concerns from other problem areas, supporting results were also found. Those checking General Anxiety scored significantly higher than other categories. Some other categories also had high scores, such as job problems, poor self-concept, and depression. Interestingly, phobic anxiety scores were not comparably high. This is reasonable, however, because phobic anxiety is typically limited to a narrow range of situations or stimuli. Items on the Trait subscale reflect more general anxiety feelings. This does suggest that the STAI may not be useful for assessing these types of anxiety dysfunctions. Overall, both subscales of the STAI received some support for their construct validity in this study.

The Tennessee Self-Concept scale was less effective than the BDI or the STAI in

identifying and discriminating particular presenting problem areas. Although some differences were found, they frequently did not correspond to theoretical distinctions one would expect. Total Positive scores were expected to distinguish those presenting with Poor Self-concept, but failed to significantly distinguish any groups. Family Self did differentiate some groups but not the hypothesized Family Problem group, which scored higher than many others. Low means on the Family Self scale were in the Grief/Illness, Sexual, General Anxiety, and Job problem groups. This raises some serious doubts about the utility of this subscale. Research using it with other measures of family functioning would help clarify this scale's composition and meaning.

For Social Self, concerns such as Alcohol, Job, Poor Self-concept, Marital, and Thinking problems were significantly lower than some other scales, again contrary to hypotheses. Expected low values for Interpersonal, Guilt, and Family problems were not found. There is also doubt, therefore, about the construct being assessed with this subscale.

The only other discriminating subscale was Self-criticism, which is intended as a defensiveness measure. Persons identifying Problems Thinking and those reporting with Poor Self-Concept and Grief/Illness problems scored higher than other groups. Contrary to hypotheses, Guilt, Intrapersonal, and Depression groups did not score high, relative to other groups. It is reasonable to expect those with self-concept concerns to be self-critical, but there is little else to support the validity of this subscale.

Overall, the TSCS and its numerous subscales were largely ineffective in discriminating any of the presenting problem categories, most notably the ones directly reflecting self-concept or esteem concerns. In contrast to the BDI and STAI, the TSCS received very little support for the validity of its intended constructs. Despite this lack of support, one final, positive note with regard to the TSCS is warranted. Across all of the

subscales and groups, average scores were generally well below normal ranges based on healthy adult norms. It appears, then, that almost any presenting concern that is severe enough to bring people to a counseling clinic is accompanied by a low and unhealthy self-concept. While this is not surprising, it is worth consideration for those delivering mental health services. Problems of almost any kind take their toll on the self. Perhaps this is what Jerome Frank (1965) was referring to when he noted that all of those seeking psychotherapy suffered from discouragement. Unfortunately, the TSCS was not intended as a measure of discouragement. Research is needed to reexamine the construction of its subscales and to clarify what they do measure. It may be, however, that the TSCS is valid and useful for identifying those in distress and ready to seek professional help.

Summary

The present study investigated the construct validity of three measures of psychological functioning, using a large sample of actual clients seeking counseling services. In contrast to most prior studies, it was not limited to a single diagnostic category, nor one measure in isolation. Results strongly supported the validity of the BDI, provided partial support for the State and Trait subscales of the STAI, but provided very little support for the TSCS. It is noteworthy that on each of these measures, the majority of clients scored outside of normal ranges. This suggests that, in addition to any problem specific relationship, all three instruments do detect some general level of psychological distress.

Further research is needed to address several additional questions. Greater clarity in the meaning of presenting problem categories would enhance interpretation of obtained differences. A significant addition would be research that adds therapist impressions of presenting problems and/or diagnoses as multiple criteria. Similarly,

predictive validity might be accomplished if some indication of what was actually addressed in therapy was included (i.e., presenting problems may change or at least become clarified as therapy begins and progresses). Our use of only pretreatment, client-rated problem categories is a potential limitation.

Finally, the results of this study suggest that many presenting problems are manifest in more than one of the measures used. It is unlikely that this means there are no meaningful differences in problems, but that different patterns of depression, anxiety, and self-concept (as well as other possible constructs) may be associated with different presenting concerns. Research to evaluate this possibility is needed. It may be that multivariate analyses that examine various combinations of scales would yield still stronger patterns of differentiation among presenting problem categories. Though this would not as directly address the individual validity of such measures, it might yield information that would make them more useful in the planning and delivery of counseling services.

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Table 1

Post-Hoc Univariate ANOVA Results for BDI, STAI, and TS

Dependent Variable	DF	SS_B	SS_W	MS_B	MS_W	F	P
BDI	18,327	5995.32	28244.24	333.07	86.37	3.86	.0001**
State	18,321	8609.85	58085.72	478.32	180.95	2.64	.0004**
Trait	18,296	7378.10	45627.98	409.89	154.15	2.66	.0003**
Physical Self	18,194	210.56	3041.16	11.70	15.68	.75	.7601
Moral/Ethical Self	18,189	477.68	5969.48	26.54	31.58	.84	.6512
Personal Self	18,184	465.50	4607.57	25.86	25.04	1.03	.4254
Family Self	18,186	546.74	3288.26	30.37	17.68	1.72	.0393*
Social Self	18,186	354.27	1972.88	19.68	10.61	1.86	.0219*
Identity	18,182	705.98	5744.39	39.22	31.56	1.24	.2317
Satisfaction	18,183	369.88	5910.90	20.55	32.30	.64	.8679
Behavior	18,185	493.07	5823.67	27.39	31.48	.87	.6152
Self-Criticism	18,184	502.48	2689.64	27.92	14.62	1.91	.0174*
Defensive Positive	18,178	619.47	5396.22	34.42	30.32	1.14	.3218
General Maladjustment	18,181	452.33	3791.82	25.13	20.95	1.20	.2654
Psychosis	18,183	504.38	3507.05	28.02	19.16	1.46	.1082
Personality Disorder	18,182	764.02	6347.32	42.45	34.88	1.22	.2512
Neurosis	18,185	424.34	4812.42	23.57	26.01	.91	.5717
Personality Integration	18,187	342.35	5840.66	19.02	31.23	.61	.8900
Total Positive	18,172	982.88	12868.29	54.60	74.82	.73	.7772

** $p < .01$

* $p < .05$

Table 2

Post-Hoc Comparisons (Duncan's Multiple Range) Between
Presenting Problem Categories for BDI, STATE,TRAIT, FAMILY
SELF, SOCIAL SELF, SELF-CRITICISM (alpha = .05)
*Variable Means (X)

Problem Category	N	BDI	STATE	TRAIT	FAM	SOC	S-CRIT
Depression	23	24.61a	59.45a	59.27a	53.79	55.07	32.07
General Anxiety	14	18.64	51.50	54.25a	50.00b	55.17	32.14
Phobic Anxiety	6	9.83b	49.60	47.80b	54.00	58.67a	31.00b
Poor Self-Concept	19	18.84	50.72	58.26a	56.75a	54.08b	33.83a
Guilt	7	19.43	56.57	53.29	53.60	56.40	31.20
Alcohol	5	10.20b	47.40	42.60b	55.33	51.67b	29.50b
Problems Thinking	6	20.00	53.50	55.00	57.40a	51.50b	35.40a
Job Problems	8	19.88	60.00a	56.14a	53.00b	52.67b	27.67b
Decision-Making	10	15.10b	49.60	50.78	53.17	54.83	30.17b
Academic Problems	8	6.88c	38.88b	39.88b	57.00a	55.75	28.00b
Intrapersonal Problems	13	13.69b	44.77b	50.33	54.11	56.00	31.20
Obsessive/Compulsive	7	14.71b	42.57b	45.43b	58.75a	55.00	33.25
Sexual Concerns	8	19.00	45.88b	45.17b	49.67b	55.67	28.67b
Marital Problems	88	16.61b	53.67	48.88b	55.41a	54.78b	30.33b
Family Problems	92	11.00c	45.23b	45.52b	54.35a	56.93a	29.87b
Spouse Abuse	10	20.40	52.67	49.22	55.00	55.86	32.80
Interpersonal Problems	8	14.38b	49.43	45.86b	54.20	56.80a	29.00b
Dating Problems	9	16.11	52.33	48.50b	54.20	55.50	30.20b
Grief-Illness	5	18.80	56.00	57.67	48.50b	57.00a	35.00

* "a" significantly greater than "b"
"a" and "b" significantly greater than "c"